1. Updating available packages and installing ping

```
seansom@alm MINGW64 ~/OneDrive/Documents/Programming/Repositories/CoE-197-S/ME8_Containerizat:
$ docker run -it ubuntu:16.04 bin/bash
root@c106a8219d64:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2049 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:7 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:8 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [985 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:10 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:11 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.6 kB]
Fetched 19.4 MB in 1min 32s (210 kB/s)
Reading package lists... Done
root@c106a8219d64:/# apt-get install iputils-ping
```

2. Creating new image based on existing container

```
seansom@alm MINGW64 ~/OneDrive/Documents/Programming/Repositories/CoE-197
$ docker commit -a 'Sean Som' -m 'Added ping utility.' c10 seansom/ping
sha256:38922cb7de28fe1cc0f23ab7f5d22784b6b1a4150def24d3f5ccfee2a05c57c2

seansom@alm MINGW64 ~/OneDrive/Documents/Programming/Repositories/CoE-197
$ docker images
REPOSITORY       TAG        IMAGE ID       CREATED          SIZE
seansom/ping     latest     38922cb7de28   12 seconds ago   169MB
hello-docker     latest     5a8b3718878c   6 days ago       113MB
ubuntu           16.04      aefd7f02ae24   2 weeks ago      134MB
ubuntu           latest     7e0aa2d69a15   2 weeks ago      72.7MB
```

3. Testing new image

```
seansom@alm MINGW64 ~/OneDrive/Documents/Programming/Repositories
$ docker run --rm -it seansom/ping
root@9ce6e242d104:/# ping google.com
PING google.com (172.217.161.46) 56(84) bytes of data.
64 bytes from 172.217.161.46: icmp_seq=2 ttl=37 time=62.8 ms
64 bytes from 172.217.161.46: icmp_seq=3 ttl=37 time=62.0 ms
^C
--- google.com ping statistics ---
3 packets transmitted, 2 received, 33% packet loss, time 2015ms
rtt min/avg/max/mdev = 62.098/62.475/62.852/0.377 ms
root@9ce6e242d104:/# exit
exit
```